among hybrid varieties. The best oat variety which was developed in this manner is the L'govskiy 1026. In 1957, the State commission (Goskomissiya) recommended that it be grown in Kurskaya, Lipetskaya, Voronezhskaya and other oblasts. -- Ye. I. Saks

USSR/Cultivated Plants - Grains. II-4

Abs Jour : Ref Zhur - Biol., No 9, 1958, 39216

Author : Zelenskiy, S.S.
Inst : -
Title : L'govskiy Oats 1026.

Orig Pub : Selektsiya i semenovodstvo, 1957, No 4, 41-44.

Abstract : A brief description of a new variety at the L'gov experiment selection station is given. This variety was arrived at by the method of individual multiple selection from the hybrid population obtained by crossing the Pobeda variety with hybrid 225 (Bizantina x Gigant). An eight year long experiment showed the advantage of the new variety over the standard one (Pobeda and Sovietskiy) with regard to its yielding capacity, resistance to fungus diseases and drought. Good prospects for the cultivation of this variety in Ryazanskaya, Tambovskaya oblasts, as well as in the Bashkir and Chuvash ASSR were found through producing experiments. -- I.N. Zaikina

Card 1/1

ZELENSKIY, S. S. Cand Agr Sci -- (diss) "Selection of oats in the L'govskiy experimental selection station." Voronezh, 1956. 21 pp (Min of Higher Education USSR. Voronezh Agr Inst), 100 copies (KL, 43-57, 90)

ZELENSKIY, S. V.

Reference book for a narrow gage railroad foreman. Moskva, Goslestekhizdat 1943. 36 p. (51-47780)

TF675.Z4

ZELENSKIY, V.

New Swiss "Saurer" 5D motortruck. Avt.transp. 39 no.2:56 F '61.
(MIRA 14:3)
(Switzerland--Motortrucks)

ZELENSKIY, V.B. (Khar'kov)

Analog of Hamand's problem for an initially stressed viscoelastic medium. Izv. vyss. uchebn. zav.; mat. no.6(58-63 '63
(MIRA 17:8)

ZELENSKIY, V.D.

18.5000

75576
SOV/130-59-10-8/20

AUTHORS: Pukhnarevich, G. P., Kobeza, I. I. (Candidates of Technical Sciences), Tarim, P. I., Gozhiy, G. P., Bembinek, Ye. I., Smirnov, V. M., Zelenskiy, V. D. (Engineers)

TITLE: Firing Open-Hearth Furnace With Natural Gas

PERIODICAL: Metallurg, 1959, Nr 10, pp 14-16 (USSR)

ABSTRACT: The Seven Year Plan provides for an increased production of gas. In this connection a method of firing open-hearth furnaces with cold natural self-carburating gas was developed under the supervision of Academician Dobrokhotov, N. N. Before furnace combustion, gas is preheated by the heat (1) generated during gas combustion in the port, and (2) accumulated by the lining of the port. In the foundry shop of the Plant imeni Karl Liebknecht (zavod imeni K. Libknekhta) an open-hearth furnace was redesigned accordingly (see Fig. 2). Gas introduced through a vertical flue by

Card 1/3

low-pressure burner, yields a luminous flame which equals that produced by natural gas with 30 to 40% mazut addition. Research is being continued to simplify the design of furnace ports for natural self-carburating gas and eliminate water-cooled flues. There are 2 figures and 2 tables.

ASSOCIATION: Institute of Ferrous Metallurgy AS UkrSSR, Ukrainian Branch of State Institute for the Design and Planning of Metallurgical Plants, Plant imeni Karl Liebknecht (Institut chernoy metallurgii AN USSR, Ukrgipromez, zavod imeni K. Libknekhta)

Card 2/3

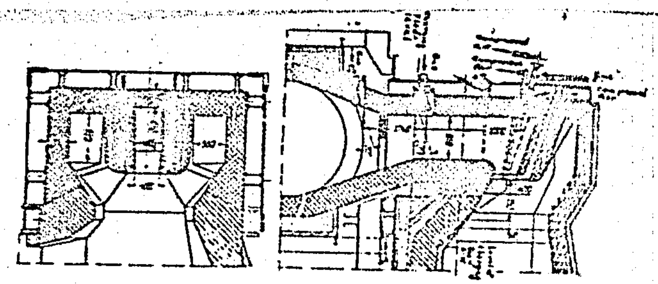

Fig. 2. Design of port for furnaces fired with self-carburating natural gas.

Card 3/3

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001964230009-7"

LEVENETS, N.P.; SAMARIN, A.M.; SEMIKIN, I.D.; KAZAKOV, V.E.; BEMBINEK, Ye.I.; PANYUKHNO, L.G.; SVINOLOBOV, N.P.; AVERIN, S.I.; SMIRNOV, V.M.; ZELENSKIY, V.D.; LAYKO, B.G.; TISHCHENKO, O.I.; OKHRIMOVICH, B.P.; DANILOV, A.M.; TISHKOV, Yu.Ya.; PANOV, M.A.; MARKELOV, A.I.; PETROV, A.K.; VASILEVSKIY, P.A.; PASYUK, K.I.; NESTEROV, V.I.; KHRUSTAL'KOV, L.A.; GLAZKOV, V.S.; MAKAGON, V.G.; FOMIN, G.G.; TRISHCHENKO, V.D.; KORZH, V.P.; SUYAROV, D.I.; ARSEYEV, A.V.; PAVLYUCHENKO, A.A.; ZHADAYEV, V.G.; KONDORSKIY, R.I.; MOROZOVA, I.A.; KOCHETOV, V.V.; PRUZHINER, V.L.; MALEVICH, I.A.; MALIOVANOV, D.I.; ZAKOVRYASHIN, I.I.; NOVSKIY, I.S.; NOVIKOVA, V.P.; GRISHIN, K.N.; MOSKOVSKAYA, M.L.; KORNEYEV, B.M.

Inventions. Met. i gornorud. prom. no.3:75-76 My-Je '64.
(MIRA 17:10)

SOV/133-59-5-7/31

AUTHORS: Kurochkin, B.N., Simonov, Ye.I., Kalashnikov, L.A., Yemets, L.K. and Zelenskiy, V.D.

TITLE: Operation of Open-hearth Furnaces on Natural Gas (Rabota martenovskikh pechey na prirodnom gaze)

PERIODICAL: Stal', 1959, Nr 5, pp 407 - 413 (USSR)

ABSTRACT: At the end of 1957, two works were operating open-hearth furnaces on natural gas with a pressure of 1 and 10 atm., respectively. The investigation carried out by VNIIMT on these furnaces indicated that the gas pressure, the nature and pressure of the atomising medium, the rate of consumption of the carburising medium and some other factors have a considerable influence on the efficiency of utilisation of natural gas as an open-hearth fuel. When the Libknekht Works started operation on natural gas, its pressure was fired at 2.5 - 3.0 atm. A study of the thermal operating conditions of a 185-ton furnace with air or steam as atomising agents for the carburising oil (up to 30%) was carried out. For comparison a preliminary investigation of the furnace operation when fired with fuel oil was made. Characteristic features of furnace

Card1/3

Operation of Open-hearth Furnaces on Natural Gas

design are given (Figure 1). Standard operating conditions when firing with oil are shown in Table 1 and a comparison of operating indices with oil and natural gas in Tables 2 and 5. The dependence of the mean flame radiation on the rate of consumption of oil (for oil-firing) - Figure 5 and the dependence of the radiation of the oil flame on the type of atomising agent - Figure 6; the above two relationships for gas-oil flame are shown in Figures 7 and 8, respectively. Recommended thermal conditions of furnace operation on firing with natural gas are given in Table 3. It was found that on transferring from oil to natural-gas firing, the productivity of the furnace did not decrease and the consumption of fuel somewhat decreased. In view of a strong influence of the rate of consumption and pressure of the atomising agent on radiation characteristics of the flame, the determination of rational values for the above parameters is necessary in each individual case. On transferring furnaces to natural-gas firing, the above presents the main problem.

Operation of Open-hearth Furnaces on Natural Gas SOV/133-59-5-7/31

There are 8 figures and 5 tables.

ASSOCIATIONS: VNIIMT, Zavod im. K. Libknekhta (imeni Libknekht Works)

Card 3/3

ZELENSKIY, V.D.; KIRZHAYEV, N.I.; SUKALO, M.Kh.; STARKOV, A.N., spets. red.; DANILOVA, Z.S., red.

[Concise French-Russian armor dictionary] Kratkii frantsuzsko-russkii avtobronetankovyi slovar'. Moskva, Voenizdat, 1964. 429 p. (MIRA 17:6)

VOLOVIK, F.L.; GORSHTEYN, P.I.; ZELENSKIY, V.D.; FOYARKOV, A.M.

Use of forsterite checkers. Stal' 20 no.2:125-127 F '60.
(MIRA 13:5)
(Open-hearth furnaces) (Firebrick)

VINOGRADOV, G.V.; KUSAKOV, M.M.; BEZBORODKO, M.D.; PAVLOVSKAYA, N.T.; ZELENSKIY, V.D.; KREYN, S.E.; BOROVAYA, M.S.

Wear-preventive properties of petroleum oils. Khim.i tekh.topl. no.1:161-3 of cover Ja '56. (MLRA 9:7)
(Petroleum)

SOV/81-59-8-28971

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 8, p 505 (USSR)

AUTHORS: Zelenskiy, V.D., Vinogradov, G.V.

TITLE: On the Effect of the Composition of Petroleum Products on Their Anti-Wear Properties

PERIODICAL: V sb.: Sostav i svoystva vysokomolekul. chasti nefti. Moscow, AS USSR, 1958, pp 189 - 195

ABSTRACT: The anti-wear properties (AP) of the fraction of Nebit-Dag petroleum, Tuymazy kerosene, naphthene-paraffin fractions (NPF) and n-paraffins separated from this kerosene, n-hexadecane and α-methylnaphthalene were studied on a four-ball machine by the one-minute method (diameter of the balls is 14.29 mm, rate of revolution is 600 rpm). It has been established that at small loads the n-paraffins are distinguished by good AP and at large loads by bad AP. Naphthene hydrocarbons have unsatisfactory AP at any loads. α-methylnaphthalene does not show any lubrication capacity at all. The lubricating action of light petroleum fractions first manifests itself in the tail fractions (275 - 300°C) of kerosene which is due, as a rule, to the presence of sulfurous compounds

Card 1/2

On the Effect of the Composition of Petroleum Products on Their Anti-Wear Properties

in them. For investigating the response of petroleum products to the action of anti-seizing additions, to NPF of oils from various types of petroleum (of approximately equal viscosity) 3% of dibutylthiophosphite or dibutylphosphite was added. The increase in the critical load of seizing for NPF of oils of the following types: transformer, machine SU and AK-15 oil from Balakhany and Binagada petroleum was > 400, ~ 260, 125 and 80%, respectively. Thereby it was proved that sensitivities of various oils to the same admixture are essentially different.

S.R.

Card 2/2

ZELENSKIY, V. D., VINOGRADOV, G. V.

"Effect of the Composition on Wear-Resistance Properties of Petroleum Products" p. 189

Composition and Properties of the High Molecular Weight Fraction of Petroleum; Collection of Papers, Moscow, Izd-vo AN SSSR, 195[illegible]. 370pp. (Issn nefti) 2nd Collection of papers publ. by AU Conference, Jan 56, Moscow.

The authors studied the wear-resistanee properties of lubricants and the effectiveness of additives as seizing inhibitors. The lubricants were tested on a friction-test machine. In order to establish which light fractions begin to show wear-resistance properties, several petroleum products were tested (e.g. kerosene fractions). The performance of lube oils was examined at high surface friction and with various additives (sulfur, phosphorus, chlorine). Oils used were: transformer oils, SU, AK-15. A close study of the NPF (naphthene-paraffin fraction) was made, and their characteristics were determined as modifying the properties of the oils. The NPF from various crudes are different and their sensitivity to additives vary (especially towards organophosphoric wear-resistance additives). There are 2 tables, 2 figures, and 2 Soviet references.

18.3200

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SOV/133-60-2-8/25

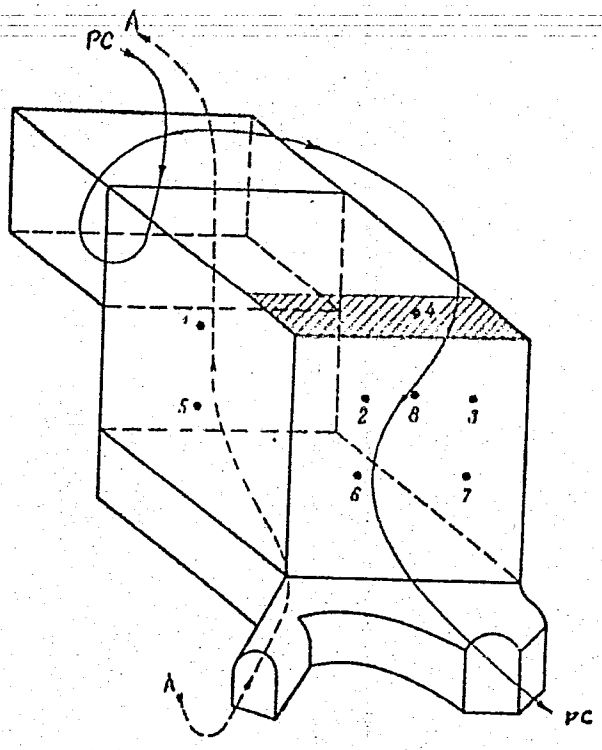
AUTHORS: Volovik, F. L., Gorshtein, P. I., Zelenskiy, V. D., Poyarkov, A. M.

TITLE: Concerning Application of Forsterite Checkers

PERIODICAL: Stal', 1960, Nr 2, pp 125-127 (USSR)

ABSTRACT: The purpose of this investigation was to establish the reasons for the impaired performance of the furnace after replacement of dynas brick by forsterite brick in the 8-12 top checker rows. It was found that decreasing heat conductivity of forsterite brick has little influence on the thermal performance of the checkers. The main cause of poorer performance is the irregularity of smoke and air distribution in the horizontal cross section. The distribution of temperature in the horizontal cross section was determined on a fire model and on the working checkers of a 185-ton furnace. The checkers have a cubic shape with rib size of 6 m, shown in Fig. 2.

Card 1/6



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SOV/133-60-2-8/25

Fig. 2. Schematic diagram of thermocouple location (1-8) and of movement of products of combustion (PC) and air (A) through the right furnace checkers.

Card 2/6

Concerning Application of
Forsterite Checkers

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SOV/133-60-2-8/25

The temperature was measured with a 2.5 m long thermocouple in two horizontal planes (Fig. 2). The measurement results shown in Fig. 3 lead to the following conclusions: (1) Combustion products outgoing from vertical ducts make turn in the slag pocket and move mainly to the front wall of the regenerator (Fig. 2). (2) Most of the combustion products pass through the checker area adjacent to the front wall, and most of the air through the checker area adjacent to the bridge wall. (3) The distribution of temperature showed that the gas and air flows do not coincide, which leads to poorer heating of the air. (4) The uniform distribution of the smoke and air by means of temporary and partial closing of the slag pocket allows a decrease in fuel consumption and an increase in furnace productivity. Credit is given to Orman, V. Ya., for his participation. There are 5 figures; and 3 Soviet references.

Card 3/6

Concerning Application of
Forsterite Checkers

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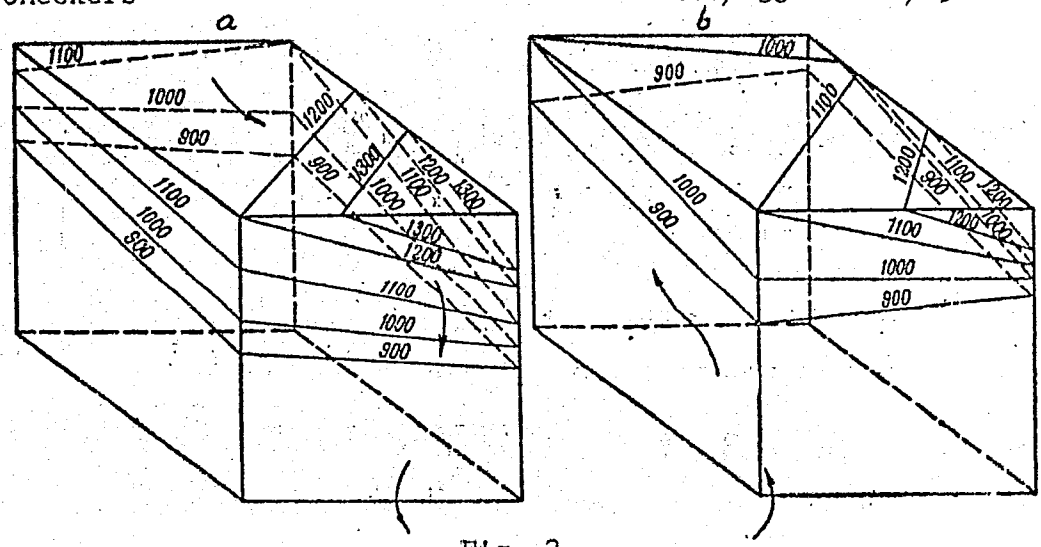

Fig. 3

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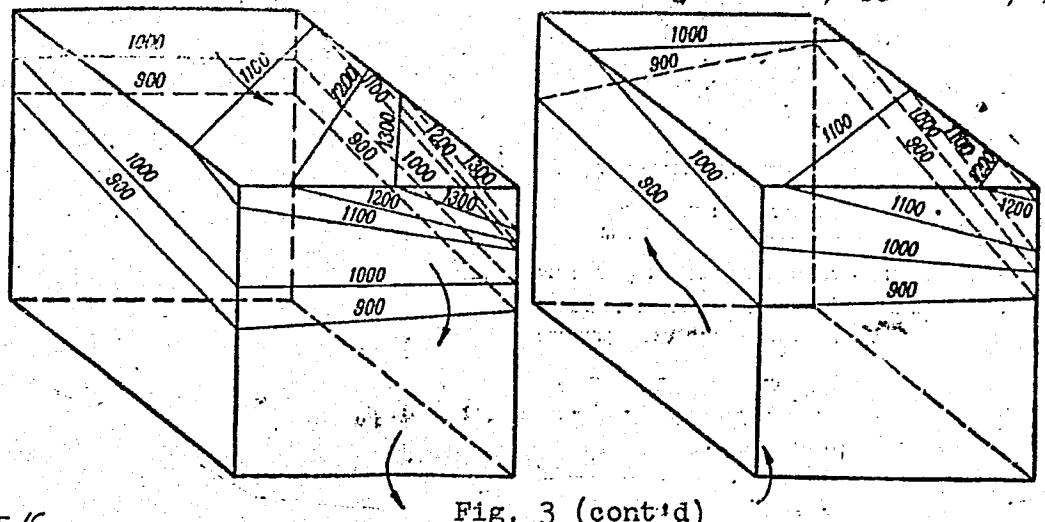

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Fig. 3 (cont'd)
(Caption Card 6/6)

Fig. 3. Temperature distribution (in °C) in right checkers of open-hearth furnaces. (a) Toward end of passage of combustion products (in charging); (b) same, toward end of air passage period; (c) toward end of combustion product passage in smelting; (d) same, toward end of air passage.

TAYTS, N.Yu.; TREGUBOV, V.V.; STETSENKO, A.M.; MILOV, I.I.; ZELENSKIY, V.D.

Scale formation during the heating of wheels in heat treating ring furnaces. Izv.vys.ucheb.zav.; chern.met. 8 no.6:159-162 '65. (MIRA 18:8)

1. Dnepropetrovskiy metallurgicheskiy institut.

ZELENSKIY, V.F.

Mechanized thinning of sugar beets. Zemledelie 7 no.6:66-69 Je'59. (MIRA 12:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sakharnoy svekly.

(Sugar beets)

ZELENSKIY, V.G., inzh.

Study of the erosive wear of metals under conditions of slit-type flow. Teploenergetika 8 no.7:36-41 Jl '61. (MIRA 14:9)

1. Vsesoyuznyy teplotekhnicheskiy institut.
(Steel—Corrosion)

ZELENSKIY, V. F.

KHRISTENKO, P. I., PETROV, P. A., MITROPOLEVSKIY, V. A., SINELNIKOV, K. D., IVANOV, V. E. and ZELENSKIY, V. F.

"Pin Fuel-Element for Gas-Cooled Heavy-Water Power Reactor."

paper presented at 2nd UN Intl. Conf. on the peaceful uses of Atomic Energy, Geneva, 1 - 13 Sep 58.

CHRISTENKO, P.I. [Khristenko, P.I.]; PETROV, P.A.; MITROPOLEVSKIJ, V.A. [Mitropolevskiy, V.A.]; SINELNIKOV, K.D. [Sinel'nikov, K.D.]; IVANOV, V.J. [Ivanov, V.Ye.]; ZELENSKIJ, V.F. [Zelenskiy, V.F.]; MAKVART, J. [translator]; KLIK, F. [translator]

Pin fuel-element for gas cooled heavy water power reactors.
Jaderna energie 4 no.11:330-338 N '58.

SINELNIKOV, K. D., IVANOV, V. E. and ZELENSKIY, V. F.

"Magnesium-Beryllium Alloys As Material For Nuclear Reactors."

paper to be presented at 2nd UN Intl. Conf. on the peaceful uses of Atomic Energy, Geneva, 1 - 13 Sep 58.

ZELENSKIY, V. F. and IVANOV, Ye.

"Corrosion of Magnesium-Beryllium Cladding Alloys"

report presented at the IAEA Symposium on Corrosion of Reactor Materials, Salzburg, Austria, 4-9 Jun 1962.

ZELENSKIY, V. F.

(3)

IVANOV, V. Ye., ZELENSKIY, V. F., VOLOSHCHUK, A. I., GRINYUK, V. M.,

"Uranium-based Cermet Alloys"

Report submitted for the Conference on New Nuclear Materials Technology including Non-Metallic Fuel Elements (IAEA), Prague, 1-5 July 1963

ZELENSKIY, V. F.

(3)

IVANOV, V. Ye., ZELENSKIY, V. F., FAYFER, S. I., ZHDANOV, S. M., MAKSIMENKO V. I., SAVCHENKO V. I.,

"Magnesium Cermets and Magnesium-Beryllium Alloys

Report submitted for the Conference on New Nuclear Materials Technology including Non-Metallic Fuel Elements (IAEA), Prague, 1-5 July 1963

ZELENSKIY, V. F.

1

IVANOV, V.YE., ZELENSKIY, V.F., KOLENDOVSKIY, M.G., KOLOMIYETS, L.D.

Impregnation of Graphite with Liquid Silicon in a vacuu,.

Report submitted for the Conference on New Nuclear Materials Technology including Non-Metallic Fuel Elements (IAEA), Prague, 1-5 July 63

ACCESSION NR: AP4029694 S/0089/64/016/004/0325/0332

AUTHORS: Ivanov, V.Ye.; Zelenskiy, V.F.; Stukalov, A.I.; Azarenko, A.V.; Ty*rina, L.V.; Gordiyenko, Ya.I.; Kunchenko, V.V.

TITLE: The relationship between the texture of hardened uranium and the type of heating and other aspects of heat treatment.

SOURCE: Atomnaya energiya, v.16, no.4, 1964, 325-332

TOPIC TAGS: phase recrystallization, heat treatment, uranium treatment, polymorphic transformation, multiple hardening, beta phase, alpha phase, phase transformation, annealed uranium, linear expansion, slow cooling, diffusion conversion.

ABSTRACT: It has now been established that the radiative growth of uranium is largely determined by the nature and prominent features of its texture. An attempt has been made to destroy the uranium texture resulting from a single hardening process by subjecting it to several such processes (up to 4 times). The result was a pulverization of the grain and disappearance of the texture, although the authors claim that the latter requires additional verification. Opinions vary as to

Card 1/2

ACCESSION NR: AP4029694

the best method of hardening uranium with a view to limiting its increasing radiation. The tests made in this connection included hardening the uranium samples in the beta- and gamma-phases, followed by the slow-cooling and water-cooling methods. The test results indicate that the texture of hardened uranium is determined primarily by the parametersof the heat treatment of the metal, and the following conclusions are therefore justified: 1) the texture of hardened uranium depends on the nature of the heat treatment but primarily on the duration of exposure to high-temperature phases; 2) the greatest destruction of the texture was noted in the samples that had been heat-treated under the effect of tensions produced by thermic gradients or external efforts, and 3) in the case of low and moderate heating speeds, the texture of hardened uranium is determined to a large extent by the technology of the uranium production and the duration of its exposure in the beta-phase before the hardening. Orig. art. has: 9 figures.

ASSOCIATION: None

SUBMITTED: 30May63 DATE ACQ: 01May64 ENCL: 00

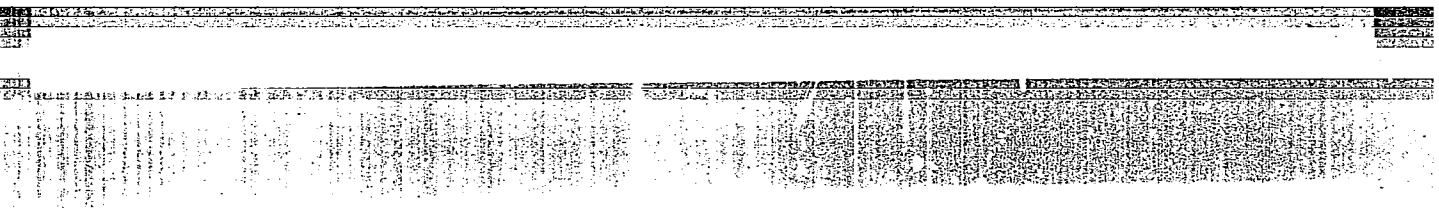
SUB CODE: PH, NS NR REF SOV: 015 OTHER: 005

Card 2/2

IVANOV, V. Ye.; ZELENSKIY, V. F.

"Development of heat-resistant fuel elements with magnesium-beryllium cannings."

report submitted for 3rd Intl Conf, Peaceful Uses of Atomic Energy, Geneva, 31 Aug-9 Sep 64.



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L 09377-67 EWP(k)/EWT(m)/EWP(e)/EWP(t)/ETI IJP(c) AT/WW/JW/JD/JG/GD

ACC NR: AT6026917 (N) SOURCE CODE: UR/0000/66/000/000/0166/0169

61
60

AUTHOR: Ivanov, V. Ye.; Zelenskiy, V. F.; Fayfer, S. I.; Savchenko, V. I.; Maksimenko, V. I.

ORG: None

10 5 27

TITLE: Internal friction in powder metal beryllium

SOURCE: AN SSSR. Institut metallurgii. Vnutrennoye treniye v metallakh i splavakh (Internal friction in metals and alloys). Moscow, Izd-vo Nauka, 1966, 166-169

TOPIC TAGS: internal friction, powder metal, shear modulus, elastic modulus, beryllium

ABSTRACT: Previous studies of internal friction for such powder metal systems as Cu-Fe-Ni, Cu-Mo, Cu-W, Ni + Al_2O_3, SAP and beryllium have shown that the temperature relationship of internal friction Q^{-1} (T) affects the nature of the initial components the method of producing a compact material and its structure. This paper discusses the same property, plus shear modulus and modulus of elasticity, for hot-pressed powder metal alloys of Be-BeO containing 0.3, 1.5 and 7% by weight BeO. Testing was conducted in a vacuum relaxation tester at forced torsion oscillations in resonance. Internal friction was determined according to change of oscillation amplitude along with measurement of frequency for constructing the temperature relationship of shear modulus and modulus of elasticity. Samples were vacuum annealed one

Card 1/2

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ACC NR: AT6026917

hour at 1,000°C prior to testing to remove stresses and adsorbed gases and to put the alloy in a more equilibrium state. Test results show maximums for all curves, and according to the authors, the behavior of these maximums depends on solubility of the components, their concentration, distribution and other factors. From a comparison of the high-temperature "background" of $Q^{-1}(T)$ it is clear that temperature of abrupt growth of the curve increases with oxide content while slope of curve becomes less. This "background" can serve as a criterion of increasing heat resistance with increased oxide content. Orig. art. has: 3 figures.

SUB CODE: 11 / SUBM DATE: 02 Apr 66/ORIG REF: 008

Card 2/2 mlb

L 09014-67 EWT(m)/EWP(t)/ETI IJP(c) JD/JG/JH
ACC NR: AP6027793 (N) SOURCE CODE: UR/0126/66/022/001/0112/0114

53
52

AUTHOR: Yerko, V. F.; Zelenskiy, V. F.; Krasnorutskiy, V. S.

ORG: Physico-Technical Institute, AN UkrSSR, Khar'kov (Fiziko-tekhnicheskiy institut AN UkrSSR)

TITLE: Diffusion of beryllium in magnesium

SOURCE: Fizika metallov i metallovedeniye, v. 22, no. 1, 1966, 112-114

TOPIC TAGS: metal diffusion, beryllium, magnesium, pressure effect

ABSTRACT: A Mg-Be alloy containing 0.2% Be was produced by simultaneous deep-vacuum evaporation and condensation of Mg and Be on a single substrate. Metallographically the compound was represented by a solid solution of Be in Mg which included tiny particles of the intermetallic compound $MgBe_{13}$. The resulting alloy was sintered under a pressure of 600 atm at a temperature equal to the temperature of subsequent diffusion annealing. To investigate the effect of hydrostatic pressure on the diffusion of Be in Mg, two lots of specimens were prepared. The first lot was diffusion-annealed at atmospheric pressure in a special steel shell filled with MgO and the second lot was annealed at 600 atm. The distribution of Be in Mg was

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determined by means of local spectral analysis (Fig. 1) (for description of local spectral ana-

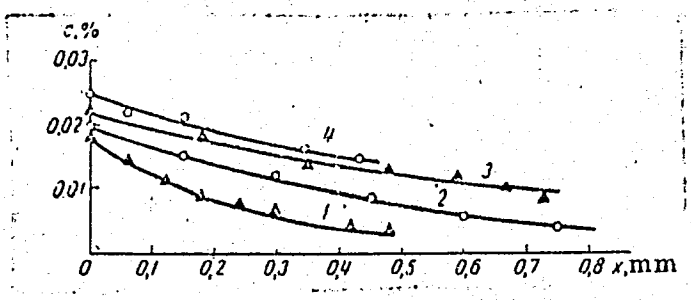

Fig. 1. Curves of the distribution of Be concentration in Mg at temperatures of:

1 - 500°C; 2 - 525°C; 3 - 560°C; 4 - 600°C

lysis cf. Yerko, V. F., Krasnorutskiy, V. S. Zavodskaya laboratoriya, 1966, 22, No 2, 161). The resulting findings on the solubility of Be in Mg as a function of temperature (Fig. 2) were used to derive the formula for the diffusion coefficient D of Be in Mg:

$$D = 8{,}06 \exp\left(-\frac{37\,490 \pm 2700}{RT}\right).$$

log D

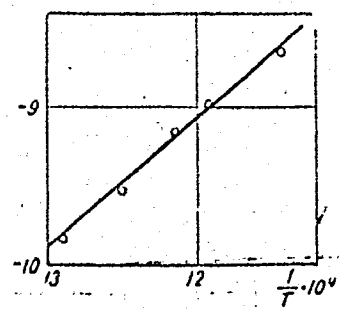

Fig. 2. Temperature dependence of the diffusion coefficient D of Be in Mg

The corresponding values of D are presented in the table below:

Annealing Temperature, °C	Annealing Time, $t\cdot 10^3$ sec	$D\cdot 10^8$ cm^2/sec	
		p = 1 atm	p = 600 atm
600	778 2448	0,22	0,24
565	1181	-	0,1
560	2552,8	0,087	-
550	1890	-	0,066
525	3819,6	0,029	-
500	2246,4	0,014	-

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ACC NR: AP6027793 O

It is thus seen that increasing the pressure to 600 atm during diffusion annealing does not affect the diffusion rate. These findings should contribute to knowledge of the effect of Be on the high-temperature strength and mechanism of oxidation of Mg-Be alloys. Orig. art. has: 3 figures, 1 table, 4 formulas.

SUB CODE: 11, 20/ SUBM DATE: 02Aug65/ ORIG REF: 003/ OTH REF: 001

Card 4/4 nat

ACC NR: AP7010681 SOURCE CODE: UR/0089/66/021/003/0192/0197

AUTHOR: Zolenskiy, V. F.; Kunchenko, V. V.; Royenko, N. M.; Kolomiyets, L. D. (Deceased); Stukalov, A. I.

ORG: none

TITLE: Texture distribution along cross section of alpha-and gamma-deformed and quenched uranium rods

SOURCE: Atomnaya energiya, v. 21, no. 3, 1966, 192-197

TOPIC TAGS: x ray analysis, uranium, uranium property, particle cross section, nuclear section

SUB CODE: 11,07,18

ABSTRACT: Roentgenographic analysis of texture distribution along the cross section of α - and γ -deformed and β - and γ -phase quenched uranium rods showed that the distribution density of P poles (hkl) and G_χ growth index were functions of mechanical and thermal treatments. Orig. art. has: 6 figures. [NA]

Card 1/1 UDC: 548.735:621.039.543.4

L 09378-67 EWT(m)/EWP(w)/EWP(t)/ETI IJP(c) JH/JW/JD

ACC NR: AT6026916 (A) SOURCE CODE: UR/0000/66/000/000/0163/0166

AUTHOR: Ivanov, V. Ye.; Zelenskiy, V. F.; Savchenko, V. I.; Fayfer, S. I.; Zhdanov, S. M.

ORG: None

TITLE: Internal friction in powder metal magnesium

SOURCE: AN SSSR. Institut metallurgii. Vnutrennoye treniye v metallakh i splavakh (Internal friction in metals and alloys). Moscow, Izd-vo Nauka, 1966, 163-166

TOPIC TAGS: internal friction, powder metal, shear modulus, magnesium, vibration measurement

ABSTRACT: Powdered magnesium was oxidized to obtain samples with differing amounts of MgO (0.3, 2.3 and 5% by weight), annealed at 500°C for one hour, and subjected to measurement of change in vibration amplitude in order to determine internal friction (Q^{-1}), as well as shear modulus with respect to temperature. There are fairly consistent data on the curves for the three alloys with respect to strength (mechanical) properties, increasing or decreasing, as the case may be, with respect to MgO content. The path of curves for the temperature relationship of internal friction and shear modulus can be explained by dispersion hardening effect found in MgO. Grain boundaries, type of impurities and distribution of impurities in the

Card 1/2

L 09378-67

ACC NR: AT6026916

3

alloy also influences the internal friction. For purposes of comparison the relationship of $Q^{-1}(T)$ is presented for technical magnesium MG-1, which had been hot pressed, where it is evident that the height of the peak for $Q^{-1}(T)$ differs little from the peak for MG-1, increasing but slightly for increased MgO content. This may be caused by a structural refinement in alloys containing a large amount of the finely dispersed oxide phase, plus high degrees of distortions and increased numbers of defects in the polycrystalline structure. Orig. art. has: 6 figures.

SUB CODE: // / SUBM DATE: 02 Apr 66/ ORIG REF: 007/OTH REF: 001

Card 2/2 mla

Zelenskiy, V. G.
~~Zelenskiy, V. G.~~

AID P - 2872

Subject : USSR/Engineering

Card 1/2 Pub. 110-a - 5/16

Authors : Ratner, A. V., Kand. Tech. Sci., and Zelenskiy, V. G., Eng.

Title : Experiments and first test run of superhigh steam equipment

Periodical : Teploenergetika, 10, 26-33, O 1955

Abstract : The article describes tests used for equipment for superhigh steam characteristics manufactured by the Venyukovskiy Electrical Equipment Plant. Tests with valves (180-200 atm, 360° C, saturated steam) and their design and operation are given in great detail. The authors mention that for the first 2,000 hrs of operation the unit is to be considered as still in the testing period. Some recommendations for improvement in the design of valves are made. Eight diagrams.

AID P - 2872

Teploenergetika, 10, 26-33, O 1955

Card 2/2 Pub. 110-a - 5/16

Institution : All-Union Heat and Engineering Institute

Submitted : No date

RATNER, A.V., kand. tekhn. nauk; ZELENSKIY, V.G., inzh.

Erosive wear of packings for water and steam fittings. Teploenergetika 4 no.12:28-32 D '57. (MLRA 10:11)

1. Vsesoyuznyy teplotekhnicheskiy institut.
(Boilers--Valves)

SOV/96-58-5-8/27

AUTHORS: Ratner, A.V., Candidate of Technical Sciences and Zelenskiy, V.G., Engineer

TITLE: The Determination of the Wetness of Steam at High Pressures (Opredeleniye vlazhnosti para pri vysokikh davleniyakh)

PERIODICAL: Teploenergetika, 1958, Nr 5, pp 44 - 46 (USSR)

ABSTRACT: The existing rules for the application and testing of steam-flow meters give no guidance on the measurement of the flow of steam/water mixtures. Therefore, the All-Union Thermotechnical Institute did work to determine the flow factor for a Venturi tube operating on hot water and wet steam at a pressure of 160-170 atm. The Venturi tube, illustrated in Figure 1, and the small and large diameters of 11 and 20 mm, respectively, and is intended for operation in a vertical 20 mm pipe carrying wet steam & a pressure of 160-170 atm. The experimental gear illustrated diagrammatically in Figure 2 was set up to determine the operating characteristics of the Venturi tube. The hot water and wet steam came from a surface-type steam cooler supplied with high-pressure, superheated steam. By altering the flow of steam and cooling water, hot water and steam of various conditions could be applied to

Card1/3

the tube.
The equipment and its calibration are described. The steam content of the wet steam was determined from the heat-balances of the steam cooler and the small heat-exchanger. The experimental procedure and precautions are then described. The difference between the steam contents determined from the heat balance of the steam cooler and from the measurement heat exchanger was usually ± 0.05. Various formulae used in working out the results are given, including one for the specific gravity of the steam/water mixture and one for the pressure drop on the measuring tube.
The results of tests on the Venturi tube are tabulated. The flow coefficient was 0.99 for cold and hot water and also for super-heated steam. The tests on wet steam gave considerable scatter of experimental points but here again the mean flow coefficient was 0.99. Since this coefficient was the same for all the conditions tested, it is possible, given the flow at sections where the fluid is of single phase, to use the flow

measuring tube to determine the steam wetness. This is very important in adjusting and operating direct-flow boilers and other high-pressure equipment. A convenient graphical method of determining the steam wetness is described. There are 2 figures, 1 table and 2 Soviet references.

ASSOCIATION: VTI

Card 3/3 1. Steam--Moisture factors 2. Steam--Physical properties
3. Water--Determination

SOV/96-59-2-11/18

AUTHOR: Zelenskiy, V.G., Engineer

TITLE: The Resistance of Certain Materials to Erosive Wear During the Flow of Water Through a Slit (Stoykost' nekotorykh materialov protiv erozionnogo iznosa pri shcholevom potoke vody)

PERIODICAL: Teploenergetika, 1959, Nr 2, pp 63-69 (USSR)

ABSTRACT: This article describes tests that were made at the All-Union Thermo-Technical Institute to study the resistance to erosive wear of a number of materials under the conditions of flow through a slot of condensate obtained by condensing the steam from super-high-pressure boilers. The samples for test were made up in two parts as shown in Fig 2. An accurately made groove 11 mm long, 3 mm wide and 0.3 mm deep on the upper surface of the lower part forms the slot through which the water flows, the water being delivered to the slot through a hole drilled in the lower part of the specimen. The upper part of the specimen that forms the top of the slot is a flat disc. Both upper and lower parts have dowel holes. The upper parts were made of the

Card 1/6

The Resistance of Certain Materials to Erosive Wear During the Flow of Water Through a Slit

material to be tested and the lower of steel grade EYalT which is erosion-resistant. The mean depth of the wear groove formed on the upper part of the specimens was used as a measure of the resistance of the material to erosive wear. The depth of wear was measured by a microscope at nine points as shown in Fig 3. Weight loss of the specimen was also determined. A general diagram of the test set-up is given in Fig 1, five pairs of samples could be tested at once. An analysis of the condensate used is given. The test conditions and results are given in Table 1. For purposes of comparison the different materials are given coefficients of resistance to erosive wear which compare them in this respect to steel EYalT. It will be seen from the tabulated results that the materials with the best resistance to erosion are titanium, chrome-nickel alloys N36Kh18, austenitic steels EI-612, EYalT and EI-695; materials of low resistance to erosion are cast iron, carbon steels, aluminium and nickel. Chemical analyses of the materials tested are

The Resistance of Certain Materials to Erosive Wear During the Flow of Water Through a Slit

given in Table 3 and considering this, together with the wear test results, it will be seen that resistance to erosion depends very much on the structure and chemical composition of the materials. Austenitic, chrome-nickel steels, including those containing molybdenum, tungsten and titanium have much greater erosion resistance than pearlitic steels. The erosion resistance of steels increases with increase in the chromium content ; titanium is also useful. Increased carbon content reduces erosion resistance. The mechanical properties such as hardness, impact strength and others of the materials are not directly related to the resistance of the materials to erosion under these conditions. Operating experience with fittings and earlier experimental data show that erosive wear of metals depends very much on the water speed. Therefore, the present work included three series of tests, each on two or three materials. The rate of condensate flow on

 the slot was controlled by altering the condensate inlet

The Resistance of Certain Materials to Erosive Wear During the Flow of Water Through a Slit

pressure. In each series of tests the condensate temperature was about the same, being 205 ± 80°C for steel EYalT and alloy TsN-3; 140 ± 30°C for steels EZh-3 and 38KhMYuA and 125 ± 20°C for steel St-20. The test results are plotted in Fig 4 and 5. Given the permissible depth of wear per unit time and the resistance to erosion of the material, Fig 5 can be used to determine the permissible rate of condensate flow. During the course of the work it was also found that the properties of the condensate influence the erosion resistance of steels. It is evident that the process of wear of metals during flow of water through a slot is closely associated with electro-chemical effects that occur when the corrosion products are continuously removed from the working surface. In order to investigate possible electro-chemical effects samples were made up of insulating plastic. Electrodes embedded in the specimens were connected to a galvanometer and a reading was obtained when condensate flowed through the slot. A graph of the relationship

The Resistance of Certain Materials to Erosive Wear During the Flow of Water Through a Slit

between the emf and the rate of flow of water when aluminium electrodes are used is given in Fig 7, which is similar in shape to the rate of wear curve. It is concluded that erosive wear of metals during flow of water through a slot is fundamentally electro-chemical corrosion such as occurs when the corrosion products are continually removed from the working surface. The wear is much higher at places where the flow is turbulent and impact effects are present. Impact effects are observed to cause cold working of the metal surface which can cause appreciable micro-hardening. The fact that the emf generated increased greatly with the water speed and that the metal is work hardened on impact give reason to suppose that much of the damage to metal during cavitation is due to electro-hydraulic impacts that occur at the high fluid speeds encountered

SOV/96-59-2-11/18

'The Resistance of Certain Materials to Erosive Wear During the Flow of Water Through a Slit

on working surfaces when cavitation bubbles collapse. There are 7 figures, 3 tables and 1 Soviet reference.

ASSOCIATION: Vsesoyuznyy Teplotekhnicheskiy Institut (All-Union Thermo-Technical Institute)

Card 6/6

S/104/60/000/010/001/003
E194/E255

AUTHORS: Zelenskiy, V. G., Engineer and Kagan, D. Ya., Candidate of Technical Sciences

TITLE: An Investigation of Erosive Wear of Metals

PERIODICAL: Elektricheskiye stantsii, 1960, No. 10, pp. 14-16

TEXT: Previous work on this subject has been described in an article by V. G. Zelenskiy in Teploenergetika, 1959, No. 2. The present tests were carried out on slots (channels) made up of the materials, the upper part of the slot being made of the material under test and the lower of steel IX18H9T (1Kh18N9T). The base fluid for the tests was condensate with a salt content of 0.1 mg/litre, to which various amounts of salt solution were added by means of a plunger-type measuring pump. During the tests the water was at a pressure of 150 kg/cm^2 and a temperature of 125 ± 10°C. The materials tested and results obtained will be found in the table.

Card 1/6

S/104/60/000/010/001/003
E194/E255

An Investigation of Erosive Wear of Metals

Characteristics of chemical contents of water		Depth of wear of specimens microns/hour		
Salts contained in water	Concentration mg/l	Steel 20	Steel 40	Bronze AZh-9-4 (AZh-9-4)
Deaerated condensate	Salt residue - to 0.1 mg/l O_2=0.02 mg/l	3.65	10.10	1.5
NaCl	12.7 83.4 111.4	4.20 4.70 4.35	8.30 7.05 8.60	1.1 0.4 0.8
NH_3	2.1-2.4 9.4 12.8	2.70 0.29 1.05	6.10 0.70 2.55	1.2 0.6 1.8

Card 2/6 /cont.

S/104/60/000/010/001/003
E194/E255

An Investigation of Erosive Wear of Metals

Continuation of Table

$(NH_4)_2CO_3$	5 6	2.40 1.85	8.20 7.70	1.0 1.2
NaOH	3 60	2.95 0.70	0.63 0.65	0.2 1.2
CO_2	1.4	11.90	22.30	4.1
O_2	0.1 1.0	0.67 0.0	3.35 -	2.5 0.0

Card 3/6

S/104/60/000/010/001/003
E194/E255

An Investigation of Erosive Wear of Metals

Most of the tests lasted seven hours. In addition tests were made with carbon dioxide in the water, using stainless steel specimens of grades 1Kh18N9T, 3Kh13 (3Kh13), EI-481 (EI-481) and weld metal from an electrode grade TsN-6 (TsN-6). For purposes of comparison, tests were also made with the condensate in which the carbon steels and bronze had been tested. Four tests were made with solutions of ammonia at mean concentrations ranging from 2.1 to 12 mg/litre. There was a marked reduction in wear of the specimens as the ammonia concentration was increased up to 9 mg/litre, presumably because the pH value of the water was raised. Increasing the ammonia concentration from 9 to 12.8 mg/litre somewhat increased the wear of steel specimens and greatly increased it for bronze. Previous work has shown that ammonia treatment of feed water in high-pressure power stations provides reliable protection against carbon dioxide corrosion of steel and the present work indicates that it also provides effective protection of carbon steel parts against erosive wear. Tests that were made with oxygen in solution in the condensate showed that under the present test conditions

Card 4/6

An Investigation of Erosive Wear of Metals

using carbon steel oxygen commences to have an inhibiting effect above a concentration of 0.08 mg/litre. With bronze, however, this concentration of oxygen still promotes wear, mainly because protective films of copper are of low strength and stability when a small quantity of oxygen is present. For bronze the oxygen becomes an inhibitor at higher concentrations and at 1.0 mg/litre there were no signs of wear either on steel 20 or on bronze. Wear of steels 20 and 40 and bronze was heaviest when carbon dioxide was present in the condensate; for example, with 1.4 mg/litre of CO_2 in the condensate the wear of the materials was 11.9, 22.3 and 4.1 microns per hour respectively. This is apparently because in the presence of CO_2 the oxide films that form on the metal are unstable. Because the influence of CO_2 on erosive wear was found to be so high, tests were made with the stainless steels 1Kh18N9T, 3Kh13, EI-481 and weld metal of electrode TK-4(TK-4) (UH-6 (TsN-6)). With these materials wear was small and did not exceed the values for pure condensate. Hence there is reason to suppose that with stainless steels erosive wear is less influenced

S/104/60/000/010/001/003
E194/E255

An Investigation of Erosive Wear of Metals

by the quality of the feed water than is the case for carbon steels and bronze. It is concluded that the process of electro-chemical corrosion must play a decisive part in the erosive wear of metals. Erosive wear in power stations can be reduced by ammonia treatment of the feed water, which also provides general protection against corrosion. Since the water conditions at power stations are mainly governed by the requirements of the turbines and boilers the best way of improving the performance of parts exposed to the feed water is by good design and the use of erosion-resistant materials. There are 1 figure, 1 table and 4 Soviet references.

Card 6/6

S/096/60/000/011/007/018
E194/E184

18.8300

AUTHORS: Laguntsov, I.N. (Candidate of Technical Sciences), Ratner, A.V. (Candidate of Technical Sciences), and Zelenskiy, V.G. (Engineer)

TITLE: The Causes of Rapid Wear in and Selection of Materials for Components of the Flow Parts of High-Pressure Feed Pumps

PERIODICAL: Teploenergetika, 1960, No 11, pp 55-59

TEXT: The main object of this article is to make practical recommendations about the materials to be used for various parts of high-pressure feed pumps together with some recommendations about the design; this is done on the basis of service and laboratory tests. Because of heavy wear experienced in high-pressure feed pumps at power stations, the All-Union Thermo-Technical Institute carried out investigations at six high-pressure power stations selected in such a way that it was possible to relate the performance of the feed pumps to the materials used in them and other design features. Particularly heavy wear is experienced in flow parts of the pumps including runners, guide vanes, glands and other parts. Not only pump design but also operating conditions

Card 1/4

S/096/60/000/011/007/018
E194/E184

The Causes of Rapid Wear in and Selection of Materials for Components of the Flow Parts of High-Pressure Feed Pumps

and quality of maintenance greatly influence the life of the pumps. In addition to making investigations at power stations, laboratory tests were made to investigate the resistance to erosion of a number of materials as function of such operating factors as length of test, width of test slot, temperature, rate of flow of medium, and so on. The tests were made on slotted specimens which imitate fairly well the conditions in feed pump glands. The tests were made with condensate from the super high-pressure boilers of the Institute. The erosion resistance of all the test materials was expressed as the ratio of the depth of wear of specimens of steel grade 1Kh18N9T (1Kh18N9T) to the depth of wear of specimens of the material tested under identical test conditions, and some 55 different test results are given in Fig 2. The erosion resistance of carbon steels and cast irons sometimes used in feed pumps is low, the erosion resistances of bronzes is better but not satisfactory. Satisfactory resistance to erosion was found in various chrome steels, chromium treated steels and sulphided steel.

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S/096/60/000/011/007/018
E194/E184

The Causes of Rapid Wear in and Selection of Materials for Components of the Flow Parts of High-Pressure Feed Pumps

Certain stainless steels have very high erosion resistance. The rate of erosive wear as function of time was tested on a number of steels and the results for grade Ct. 20 (St. 20) are plotted in Fig 3. In a considerable number of steels at high rates of flow the rate of erosive wear is proportional to the third power of the rate of flow. The influence of temperature on rate of wear is shown by the graphs in Fig 4 and in general the rate of wear is directly proportional to the condensate temperature up to 200 °C. It was concluded from the work and from published data that the main cause of short feed-pump life is rapid erosive wear of components in the flow part. Accordingly, it is most important to select the materials to be used for such parts and also the rates of flow with great care. Typical design effects that can lead to heavy wear are also mentioned. The quality of the feed water has an important influence on the life of parts of cast iron, carbon steels and bronze. Increasing the loading on a pump increases the speed and alters the character of the flow and can lead to very heavy wear. Specific recommendations are then made about the

Card 3/4

84921
S/096/60/000/011/007/018
E194/E184

The Causes of Rapid Wear in and Selection of Materials for Components of the Flow Parts of High-Pressure Feed Pumps

materials to be used in different parts of the pumps. Thus, the flow parts of pumps, depending on the rate of flow of water should be made of chromium (Cr = 13-20%) and chrome nickel steels. Steel 2Kh13 (2Khl3) was particularly successful for runners and guide vanes but other hard chrome-nickel steels can also be satisfactorily used. Glands which are subject to mechanical wear as well as erosion present a difficult problem and it is recommended to use coatings made with electrodes grades ЦН-6 (TsN-6) or ЦН-2 (TsN-2), or steel ЭИ-481 (EI-481), steel 2Kh13 (2Khl3), sulphided and chromium treated steel ЭИ-909 (EI-909). These materials resist mechanical and erosive wear. A number of other detailed recommendations are made about the kind of materials to use. The importance of good surface finish is emphasised. If attention is paid to all these measures the service life of high-pressure feed pumps may be greatly extended.
There are 4 figures.

ASSOCIATION: Vsesoyuznyy teplotekhnicheskiy institut (All-Union Thermo-Technical Institute)

Card 4/4

ZELENSKIY, V.G., inzh.; SMIRNOVA, L.P., tekhnik

Study of the erosion of a metal. Elek. sta. 32 no.11:41-44 N '61. (MIRA 14:11)

(Metals) (Erosion)

ACC NR: AM6030784 (N) Monograph UR/

Ratner, Abram Vladimirovich; Zelenskiy, Vladimir Grigor'yevich

Erosion of the materials of thermal power plant equipment (Eroziya materialov teploenergeticheskogo oborudovaniya) Moscow, Izd-vo "Energiya", 1966. 270 p. illus., biblio. Errata slip inserted. 5200 copies printed.

TOPIC TAGS: power plant, thermal power plant, ~~material~~ erosion, ~~metal erosion, material wear, erosion damage prevention~~ wear resistance, power plant component, water vapor

PURPOSE AND COVERAGE: This book is intended for engineering personnel engaged in the fabrication and operation of thermal power-plant equipment. The book reviews damage to power plant parts caused by water, steam and gases moving at high speed. The effect of some technological, structural and operational factors on the rate of erosion of material is analyzed. Problems of erosion resistance of steels used in thermal power plants operating at high and superhigh parameters of steam are discussed. On the basis of experimental findings and operational experience, suggestions for reducing the material wear are made.

TABLE OF CONTENTS [abridged]:

Card 1/3 UDC: 620.193.1

ACC NR: AM6030784

Card 2/3

ACC NR: AM6030784

SUB CODE: 13/ SUBM DATE: 08Feb66/ OTH REF: 019/ ORIG REF: 080/

Card 3/3

ZELENSKIY, V. I.

ZELENSKIY, V. I. -- "Investigation of the Working Process of a Single-Stage High-Pressure Axial Compressor." Min Higher Education Ukrainian SSR. Khar'kov Polytechnic Inst imeni V. I. Lenin. Khar'kov, 1955. (Dissertation for the Degree of Candidate in Technical Sciences)

No 1

SO: Knizhnaya Letopis', 1956, pp 102-122, 124

ZELENSKIY, V.I.

Results of experimental investigation of single-phase high-pressure axial-flow compressors. Sbor. trud. lab. hydr. mash. no.6:159-167 '56. (MIRA 10:11)

(Gas turbines)

AUTHOR: Zelenskiy, V.I. SOV/115-58-1-20/50

TITLE: A Photoelectric Torque Meter (Fotoelektricheskiy krutil'nyy torziometr)

PERIODICAL: Izmeritel'naya tekhnika, 1958, Nr 1, pp 37 - 38 (USSR)

ABSTRACT: This torque meter is designed for measuring the torque on shafts rotating at 6,000 to 10,000 rpm. It consists of a clutch connecting the driving shaft with the driven shaft. The two clutch discs have 90 radial slots. On the one side of these discs are placed electric bulbs; on the other side are photoelectric elements. The rotation of the discs against each other produces a change in slot width proportional to the torque transmitted. Tests proved this simple device to be suitable for measuring the torque directly on the shafts of machines and producing accurate readings (in angular minutes), but the accuracy decreases after the photoelements warm up. There are 2 diagrams.

1. Torsion meters---Design 2. Torque---Measurement 3. Torsion meters---Performance

Card 1/1

SOV/112-58-2-1933

Translation from: Referativnyy zhurnal, Elektrotekhnika, 1958, Nr 2, p 23 (USSR)

AUTHOR: Zelenskiy, V. I.

TITLE: Some Results of an Experimental Investigation of a Single-Stage High-Pressure Axial Compressor (Nekotoryye resul'taty eksperimental'nogo issledovaniya odnostupenchatogo vysokonapornogo osevogo kompressora)

PERIODICAL: Sb. tr. Labor. gidravl. mashin. AN Ukr SSR, 1956, Nr 6, pp 159-167

ABSTRACT: Investigation results are presented for an axial compressor having sharply curved working and rectifying blades. Compressor ratings and measurement methods are given. Operating characteristics of the stage have been constructed on the basis of tests conducted in the region from the maximum discharge to the beginning of "pumping." On the basis of experimental data, conclusions have been drawn that a low degree of reaction of the high-pressure runner should be accepted and that sharply curved blades can be used to increase pressure created by the stage.

V.S.P.

Card 1/1

ZELENSKIY, V.I., kand. tekhn. nauk

Graf form of the characteristic of axial flow compressors.
Izv. vys. ucheb. zav.; energ. 2 no.7:80-86 Jl '59.
(MIRA 13:1)

1.Belorusskiy institut inzhenerov zheleznodorozhnogo transporta.
(Air compressors)

ZELENSKIY, V.I., kand. tekhn. nauk (Gomel')

Comparsion of the traction characteristics of switcher locomotives. Zhel. dor. transp. 41 no.5:46-47 My '59. (MIRA 12:7)

(Locomotives) (Railroads--Switching)

ZELENSKIY, V.I.

Determining kinematic parameters of an axial flow supercharger from maximum power conditions. Trudy LVMI 1:59-65 '62
(MIRA 17:7)

ZELENSKIY, V.I., kand. tekhn. nauk; PROZOROV, Yu.P.

Automatic control unit for stopcocks of pyramid shaped sedimentation tanks of dressing plants. Avtom. i prib. no.2:6-7 Ap-Je '65.
(MIRA 18:7)

ZELENSKIY, V. L., jt. au.

SEMENOV, Mikhail Ivanovich.
Gas masks for the population. Moskva, Glav. red. khim. lit-ry, 1936. 72p.
(54-50031)

UG447.G87

ZELENSKIY, V.M., kandidat tekhnicheskikh nauk.

Letter to the editor. Gor.zhur. no.12:3 of cover D '55. (MLRA 9:4)
(Drilling and boring machinery)

GAYEV, P.T., inzh.; ZELINSKIY, V.M.; MIKHAYLYUK, N.T.; RUKMAN, G.L.; SOLOKHA, A.P.

Remote control of immersible pumps during mine drainage. Shakht. stroi. 8 no.3:6-8 Mr '64. (MIRA 17:3)

1. Vsesoyuznyy trest po osushcheniyu obvodnennykh ugol'nykh mestorozhdeniy Glavtsentroshakhtostroya Ministerstva stroitel'stva predpriyatiy ugol'noy promyshlennosti SSSR (for Gayev). 2. Vsesoyuznyy nauchno-issledovatel'skiy institut organizatsii i mekhanizatsii shakhtnogo stroitel'stva (for Zelinskiy). 3. Institut Avtomatugle-rudprom konosopskogo elektromekhanicheskogo zavoda "Krasnyy metallist (for Mikhaylyuk, Rukman, Solokha).

ZELENSKIY, V.M.

Beer distillation columns made of duralumin. Spirt. prom. 25 no.5:42-43 '59. (MIRA 12:10)
(Distilling apparatus)

ZELENSKIY, V.M.

Complete processing of potatoes to starch and alcohol.
Spirt.prom. 27 no.4:30-31 '61. (MIRA 14:6)
(Potatoes)
(Starch)
(Alcohol)

ZELENSKIY, V.M.

Preparation of yeast at plants of the Vileyka Alcohol Trust.
Spirt. prom. 24 no.5:21-22 '58. (MIRA 11:9)
(Yeast) (Distilling industries)

ZELENSKIY, V.M.

Production of ferment preparations based on potato pulp. Spirt.prom. 29 no.2:40-41 '63. (MIRA 16:3)

1. Belorusskiy sovet narodnogo khozyaystva.
(Distilling industries—By-products) (Potatoes)

ZELENSKIY, V.N.; USPENSKIY, M.S.

Participation of topographers and geodesists in the search for mineral resources; letters to the editor. Geod.i kart. no.5:65 My '61. (MIRA 14:6)

1. Otryad No.82 Sverdlovskogo aerogeodezicheskogo predpriyatiya (for Zelenskiy). 2. TSentral'nyy nauchno-issledovatel'skiy institut geodezii, aeros"yemki i kartografii (for Uspenskiy).
(Prospecting)

S/114/61/000/008/004/005
E193/E183

AUTHORS: Zelenskiy, V.N., Engineer, and Kostenko, A.V., Engineer

TITLE: Heat resistant cast irons as materials for components of power generating plant

PERIODICAL: Energomashinostroyeniye, 1961, No.8, pp. 35-38

TEXT: In the fabrication of some cast components, operating at elevated temperatures under relatively low stresses, cast irons are often used instead of more expensive and difficult to produce alloy steel castings. The object of the present investigation was to carry out a comparative study of two types of cast iron, used at the Ural'skiy turbomotornyy zavod (Ural Turbo-motor Plant) as the materials of supercharger blocks which operate in the atmosphere of exhaust gases at 550-600 °C and which carry relatively high loads. The materials studied were cast iron ЖЧХ1.5 (ZhChKh 1.5) (containing 2.8-3.4% C, 1.7-2.7% Si, 1.2-1.9% Cr and up to 1.0% Mn, 0.3% Cp and 0.12% S), and cast iron of the "Силал" type ("Silal") (containing 2.5% C, 5.45-6.6% Si, 0.62-0.85% Mn, and approximately 0.18% P, 0.018% S, and 0.1% Cr). Tensile and transverse bending tests, carried out at various temperatures between 20 and 650 °C,

Card 1/7

Heat resistant cast irons as materials...

showed that cast iron of the "Silal" type is more temperature-sensitive than cast iron ZhChKh 1.5. The U.T.S. of the former decreases by 60% on heating to 650 °C (from 19.0 to 6.8 kg/mm^2), the corresponding decrease in the case of the latter material being only 19% (from 21.7 to 18.4 kg/mm^2). The bending strength and ductility (as indicated by elongation and deflection) of both materials increased with rising temperature. In the next series of tests the stability of the structure and properties of the two materials at high temperatures were studied. To this end, the test pieces were held at 600 °C for periods ranging up to 1500 h after which their microstructure was examined and both tensile and transverse bending strength determined. No significant changes in the structure of either alloy were observed. The mechanical properties of cast iron ZhChKh 1.5 were also practically unaffected even after 1500 hours at 600 °C. On the other hand, the U.T.S. of the cast iron of the "Silal" type decreased after the same treatment from the initial 18.6-19.0 to the final value of 11-15.0 kg/mm^2. Similar differences were revealed by creep tests, the results of which are tabulated. The results of the time-to-rupture tests are given in Table 4. The results of tests carried

out at 600 °C under a stress of 2 kg/mm^2 are reproduced in Table 5. It will be seen that the time-to-rupture under a high applied stress was shorter for "Silal" and that the creep rate for this material under a low stress was higher than that of ZhChKh1.5. The resistance of both materials to the action of hot products of combustion of diesel engine fuel was studied side by side with that of steel 20 ХМЛ (20KhML). The scale formed on specimens tested at 600 °C was periodically removed by electrolytic dissolution, the loss of weight due to the formation of scale was measured, and from these data the rate of attack was calculated. The results are reproduced in Fig.4. Although in the first stage of the process, when the rate of attack was high for all three materials, the rate of attack on cast iron ZhChKh 1.5 was higher and that of "Silal" lower than the rate of attack on steel 20KhML, this difference became insignificant after prolonged exposure to hot exhaust gases. In every case tenacious and firmly adhering scale was formed. The object of the final series of tests was to study the dimensional changes of the materials studied, caused by simultaneous action of the exhaust gases and high temperatures. The tests (lasting up to 1500 hours) were carried out at 600 °C

on cylindrical specimens whose length and weight were periodically measured. The length measurements were carried out between the flat faces of the test pieces, a protective paint being used before each test to prevent the formation of scale on these faces. The increase in length of the "Silal" specimen after 1500 hours did not exceed 0.5%, the maximum increase in length of the ZhChKh 1.5 cast irons being 0.2%. The maximum increase in weight during the same period was 0.379% for "Silal" and 0.408% for ZhChKh 1.5. It was concluded that in the fabrication of components of power generating plant, operating at 600-650 °C in the atmosphere of burnt diesel fuels and carrying low loads, the low- and medium-alloy steels can be successfully replaced by cast iron ZhChKh 1.5.
There are 5 figures, 6 tables and 1 Soviet reference.

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AUTHORS: Golovanov, A. M.; Zelenskiy, V. Yu.; Polyakov, V. L.; Troitskiy, B. R. 32 B

ORG: none

TITLE: A method for c solidating loess soils. Class 84, No. 181007

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TOPIC TAGS: soil, soil property, soil mechanics, soil consolidation

ABSTRACT: This Author Certificate presents a method for consolidating loess soils by forcing into them (through injectors) a silicate solution fed by compressed air. To increase the radius of the consolidation zone, to shorten the period of injection, and to diminish the amount of the solution, forcing of the latter into the soil is conducted under an air pressure which is uniformly increased in the course of the process. The amount of the solution is held to 0—80 liters/minute.

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ZELENSKIY, Ye. [Zielinski, J.]; CHOPIK, Ye. [Czopik, J.] (Zabzhe, Pol'sha)

Changes in the upper urinary tract in patients with cancer of the cervix uteri; review of foreign literature. Urologiia no.1:86-89 '62. (MIRA 15:11)

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